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SUBJECT: BOTSWANA HOSTS INTERNATIONAL S&T CONFERENCE

11. Summary. The University of Botswana (UB) hosted September 8-10 in Gaborone the second International Association of Science and Technology for Development (IASTED) Conference (IASTED TWO). The UB is placing increasing emphasis on Science and Technology (S&T) and its participation in IASTED Two reflects that commitment. The event was a combination of three workshops on Power and Energy Systems; Modeling and Simulation; and Water Resource Management. Attendees included the Minister of Minerals, Energy and Water Resources Dr. Ponatshego H. Kedikilwe, who gave the opening speech, directors and other officials from various ministries, as well as NGOs, business and academia from Botswana, Southern Africa and other regions, including the United States. Many opined that the Second IASTED Africa Conference was a success and noted its importance to Botswana's S&T agenda. End Summary.

IASTED Africa TWO  
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12. The Government of Botswana (GOB), through the state-owned University of Botswana (UB), hosted September 8-10 the second IASTED Conference at the Gaborone International Conference Center located in the complex of the Grand Palm Hotel. The event was in fact a combination of three smaller workshops: a) Power and Energy Systems; b) Modeling and Simulation; and c) Water Resource Management (WRM). Among the sponsors were GOB agencies, and mining giants Debswana and BCL. Attendance, which was quite good, included the Minister of Minerals, Energy and Water Resources Dr. Ponatshego H. Kedikilwe, who gave the opening speech, directors and other officials from various ministries, as well as NGOs, business and academia from Botswana, Southern Africa and other regions, including the United States.

13. The Master of Ceremonies Professor George O. Anderson, Head of Electrical Engineering at UB, explained the history and purpose of the conference. IASTED is a non-profit entity founded in 1977 in Zurich, Switzerland and now based in Calgary, Canada. Its mission is to promote economic and cultural advancement and does this by organizing multidisciplinary conferences and courses in both industrialized and developing nations for academics and professionals, mainly in the fields of engineering, science, and education. According to Anderson, IASTED held its first conference in Botswana in 2006, at which time it was agreed to hold IASTED in Botswana every other year, with UB as host. He said that for this event, UB had received and reviewed 310 technical papers, and accepted 170, 140 of which came from 40 countries. In his introductory remarks of the Minister Kedikilwe, UB Vice Chancellor Bogosi Othlogile said that although UB is a young institution, it enjoys a wide variety of partners. The university is placing increasing emphasis on Science and Technology (S&T), and its participation in IASTED Two reflects that commitment, he remarked.

Ministerial Plaudits  
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14. In his keynote address, the Minister praised the theme of the conference (i.e., S&T Innovation for Sustainable Development) as robust and visionary. Noting that the focus on water, energy and power in the mini conferences were very important to Botswana, he thanked the major sponsors of the event, such as Debswana, BCL, the Botswana Power Company (BPC), the Water Utilities Company, Botswana Telecommunications Authority (BTA), and host of other players in the public and private sectors. Kedikilwe also applauded UB's practical

programs (e.g., solar power exploration), which, he said, demonstrate an admirable mixture of practice and theory and guard against UB simply becoming an ivory-tower university. To wit, he challenged experts in the audience to seriously consider inventing a stove that could use coal, which Botswana has in abundance, for the benefit of rural communities, especially women. He offered in jest to donate a cow to any successful inventor. On a more serious note, the Minister revealed that the GOB had identified engineering, and S&T as scarce skills. The government also mandated UB to be ICT compliant (i.e., Information, Communications and Technology) as soon as possible to be able to fulfill its role as a key player in a knowledge economy for the benefit of society. Kedikilwe concluded by stressing ICT's critical role in helping Botswana attain its Vision 2016 goals, key among which are an educated populace and a prosperous nation.

#### The Mini Conferences

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¶5. All three workshops/mini conferences that formed part of IASTED Two witnessed strong attendance, with lots of give and take in the discussions that followed every presentation or "tutorial". Unfortunately, for those with a keen interest in at least two of the three topics, attending some sessions meant missing equally fascinating and important contributions from experts in the various sectors. Subjects covered in the WRM Conference included Integrated Watershed Management(IWM); Drought in a Changing Climate Environment; Ground Water Quality in Rural Villages; Waste Water and Storm Water Management; Human Impacts, Water Resources and Ecosystem Maintenance in the Okavango Delta; and Best Water Management Practice for Sustainable Agriculture.

¶6. In the Power and Energy Systems Conference, among the topics discussed were: Renewable Energy in Southern Africa; Power Electronics and Motor Drives: Advances, Applications, Trends; Renewable Energy: From Intellectuality to Reality; Application of Solar Technology to Improve Energy Demand in Botswana: A Case Study; An Investigation of the Wave Energy Resource on the South African Southwest Coast; Achieving Sustainable Electric Power for Southern Africa: Issues and Options; Energy Management in Hotel Facilities; Energy Conservation in Households; and Renewable Energy Resources Barriers in Africa. In the Modeling and Simulation Workshop, subjects covered included: Forecasting Model for Energy Consumption in South Africa; Modeling of a Solar Collector's Absorber; Modeling of Generator Failures within Wind Turbine; Mathematical Modeling; Scientific Applications of Modeling; and Simulation Optimization.

¶7. In an example of the informative sessions that took place, UB Professor David Stephenson provided a tutorial entitled "Supplying Increasing Water Demands with Decreasing Resources." While acknowledging that water demand is increasing as supplies are decreasing, Stephenson made the bold assertion (contrary to the claims by many experts and UN bodies) that "the world is not short of water." He insisted that Botswana's problem is not water supplies, which are adequate, although it will decrease in quantity and increase in price. The problem, he asserted, is mismanagement. The majority of water loss in this semi arid country is due to evaporation (83.8 percent) and runoff (15.9 percent), both of which could be mitigated by appropriate measures. In short, Botswana will not run out of water, provided it plans ahead and manages what it has accordingly. Stephenson closed by lamenting that "Africa is plagued by international rivers that require tedious negotiations" on usage rights.

¶8. Similarly, in a Power and Energy session, Professor Magdy Bayoumi of the University of Louisiana, Lafayette, reported a case study on Keyna charcoal stoves in his presentation titled "Renewable Energy: From Intellectuality to Reality". (Comment: Minister Kedikilwe would have been pleased with this anecdote, given his pleas for a similar invention for Botswana coal. End Comment). Bayoumi noted that energy priorities necessarily varied in Africa, which has three distinct energy uses: oil and gas in North Africa; coal in Southern Africa; and biomass in Central, West and East Africa. (Note: REHO attended a few model and simulation sections but they were largely technical in nature. Nonetheless, attendance was strong. End Note).

Comment

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19. The consensus is that the Second IASTED Africa Conference went well, with no major hiccups arising over the three days. Professor Totolo, Dean of the Faculty of Science, observed that the Minister's attendance reflected his appreciation of the importance of the event, particularly with respect to Botswana. He also noted that IASTED not only provides visibility to the University, but also aligns nicely with its strategic plan and Botswana's Vision 2015 agenda. As noted reftel, the GOB, through the Ministry of Communications, Science and Technology(MCST), is determined to develop a credible national S&T capability that will yield globally competitive outputs. In Botswana, S&T funding has long been inadequate and without systematic coordination, resulting, in lack of significant impact on the economy. The September 23 edition of the government newspaper the "Daily News" headlined the holding of a UNESCO-funded SADC S&T workshop in collaboration with the African Union September 23-24 in Gaborone to review S&T and innovation policy in Africa. At that event, Botswana's S&T Minister Pelonomi Venson-Moitsoi reaffirmed Botswana's recognition of "the role of science and technology in diversifying the economy and improving national competitiveness." Most observers agree that the most daunting challenge for Botswana is to utilize S&T towards achieving broad national developmental goals. IASTED Two was a reminder of the urgency of implementing that agenda.

GONZALES